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Technology

SHENZHEN JIZHUO TECHNOLOGY CO., LTD

JZ882 Micro Power Wireless Data Module

User's Manual

DVER 2.0

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JZ882 Micro Power Wireless Data Module

JZ882 data transmission module is highly integrated micro-power half-duplex wireless data transmission module, which uses "ADI" high-performance RF chips and high-speed microcontroller. Module provides 8 channels, and is equipped with a professional set-up software for the user to change parameters, the module with transparent transmission mode, no user-written set and transmission procedures, you can transmit data of any size. Module is small, the use of voltage is wide, easy to use

Applications：

※ Water, electricity, gas, heating automatic meter reading system

※Wireless smart terminal PDA

※Wireless Queue System

※Wireless alarm and security system

※Smart Card

※ Medical and electronic instrumentation automation control

※Intelligent teaching equipment

※ Intelligent home automation and lighting control

※Wireless electronic scale

Features：

※Frequency: 470-510MHz

※Distance:2500m(1200Bps)

※Modulation:GFSK

※Transparent transmission

※ Built-in watchdog to ensure long-term reliable operation

※UART/TTL、RS232、RS485 Interface

※Convenient and flexible

※Almost 512bytes data buffer

※Suitable for built-in installation

JZ882 wireless module, the use of ISM frequency band, without application frequency; can be set to 8 communication channels, transmit power of 500mW (27dB), high receiver sensitivity-122dbm, size 63mm * 43mm * 15mm (without antenna base) , a large number of the queuing system to use, very convenient for users to do the embedded wireless systems.

JZ882 the use of transparent transmission, in order to ensure the reliability and stability of the user's system, plus the transmission checksum or CRC checksum error detection mode, the error data retransmission. Transceiver module buffer of 512bytes, means that users can be in any state 512bytes of data transfer 1, when the speed is greater than the serial port is set to air rate, is theoretically unlimited length can send information packets, but does not recommend users to send long data packets, the proposed length of each packet data between 60 ~ 100B, generally not longer than the 120B, and recommended user program using the ARQ mode, the error data packets retransmission. As follows:

If the actual error rate 10-4, users need to send 1KB about 10000bit information, if the 1KB data as a packet, sent at least theoretically, there will be a data error in the receiver, then the 1KB data can never be received correctly. If it is divided into 10 packages, each package 100B, then send 10 packets, the packets according to a probability of only 1 error, the error in the form of a packet retransmission by ARQ 1, although it took more than 1 packet and the efficiency decreased by about 10%, but it can guarantee all the information is correctly received.

JZ882 set parameters, the market is no longer used wireless modules used in the traditional way to change the parameters of the jumper, causing long-term use because it brings bad, options less dynamic change is not easy, a lot of inconvenience. JZ882 using the serial port setting parameters easy and quick, easy set refers to the chip embedded in the user program and operating software in the background. Meanwhile module 1200/2400/4800/9600bps 4 kinds of rate and 8 frequencies; provide UART / TTL, RS232, RS485 three kinds of interfaces. Choice for users.

In the work on, JZ882 There are two ways of working, first for the conventional model, which Module is powered On, is in receive mode; you also can be sending data. The second is sleep

mode, that is, through the power module in a dormant state, it must be user-controlled mode Wake-up pin block, the module can send and receive data.

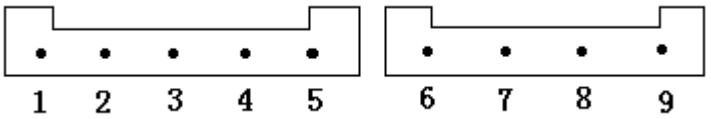
In the application of JZ882 module, the module uses a wide range of voltage, the voltage is also divided into two kinds, the first for the 5V power supply module, also known as conventional module, the voltage of DC 4.5-5.5V. The second is 3V power supply modules, custom module for the user, the voltage of DC 2.7-3.3V; users in the use of power to DC power supply, the current must be greater than 50mA, but to choose a good power supply ripple.

Modules pin definitions

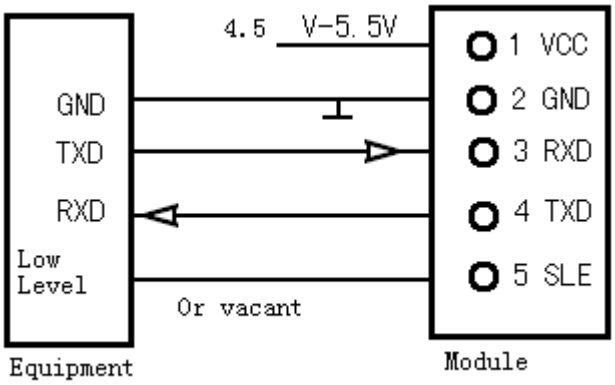
JZ882 module J1 Interface Block, a total of 6 pins, defined in detail as follows：

Item no	PIN	Description Level Connected to the terminal	User terminal	Remarks
1	SLE	Sleep control (input) end		Low level to sleep, High level awake
2	TXD/RS-485(A)	Serial data transmitting end	RXD/RS-485(A)	
3	RXD/RS-485(B)	Serial data receiving end	TXD/RS-485(B)	
4	GND	Power supply/Ground	DGND/AGND	
5	VCC	+5V	+5V	
6	I2	NO. 2 on-off input	user terminal on-off output	Customize-and-extend interface
7	I1	NO. 1 on-off input	user terminal on-off output	Customize and extend interface
8	O2	NO. 2 on-off output	user terminal on-off input	Customize and extend interface
9	O1	NO. 1 on-off output	user terminal on-off input	Customize and extend interface

Dimension

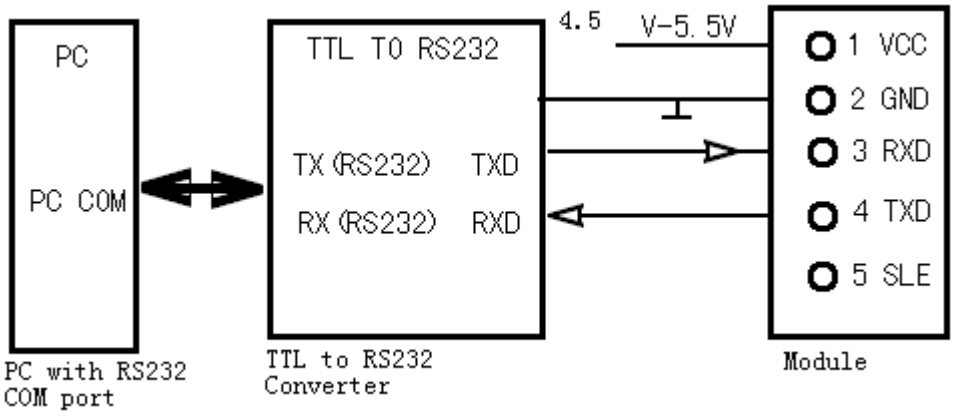


Module with customer equipment connections



Note: JZ882 did not sleep in the state, the module of the SLE feet must be vacant. In the sleep state when the module must be low, the module can send and receive data.

Module with PC connections



Note: As JZ882 mode TTL interface module, so the PC must be added to connect the TTL to RS232 converter, and converter must supply DC 5V of electricity.

For software testing and change parameters

A, between the JZ882module and connect a PC RS-232 to TTL adapter, and plug in the power, select the serial port used.

B, the radio detection, when the check to the station (the software will prompt detection success), you can read or change a single parameter.

C, change parameters, when you select a parameter you want to set, after set up to read again, to see the parameters of the module is not what you want.

Note: Two or more modules to communicate, then the frequency of the station modules and air rate must be consistent.

Module to communicate with user equipment, the module's serial port parameters and user settings must be consistent.

Communicated Module

JZ882 wireless module with all the JZ88 series of models to communicate with each other. Communication as long as you pay attention to the following:

A, select all the modules to the same channel.
B, you have the same communication module of the air rate.
C, the communication module, power supply, interface connection is connected.

Sleep Mode

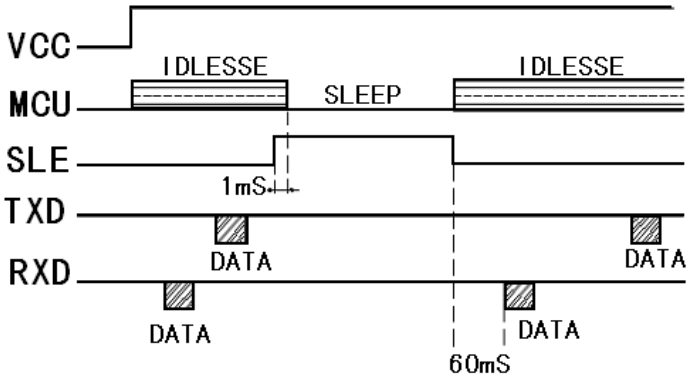
JZ882 divided into dormancy release version with no sleep.JZ882 sleep after the current is 10uA. JZ882 hibernation wake-up mode for the hardware. Wake is the fifth through the interface hardware input pin high to sleep, wake-up input low.

If the user has a sleep function JZ882, but do not want to use the hibernate feature, available through JZ882 pin 5 to ground,then achieve.

Details as followings

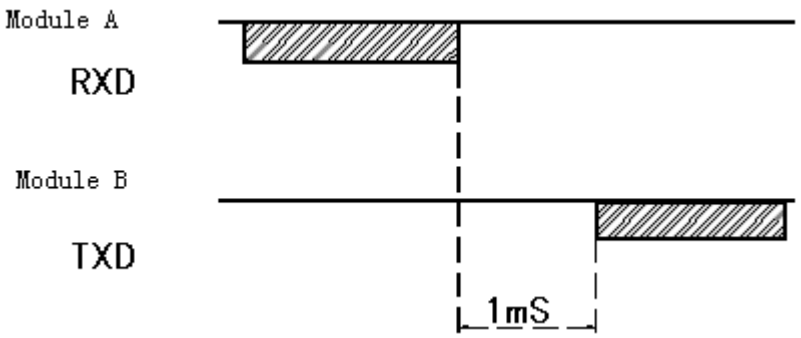
Module in the working state to sleep state, it is necessary to SLE pin from low to high, if the module is idle (no transmit / receive data) MCU to sleep within about 1ms; If you are in the collection and development data, the data will be processed the frame side to sleep.

Module in sleep state to work state, it is necessary to SLE pin from high to low, MCU is working on several ms to enter into the state, but in order to send data to the stability of the user side should be more than 60ms latency available for data transmission.



Transform on transceiver and receiver

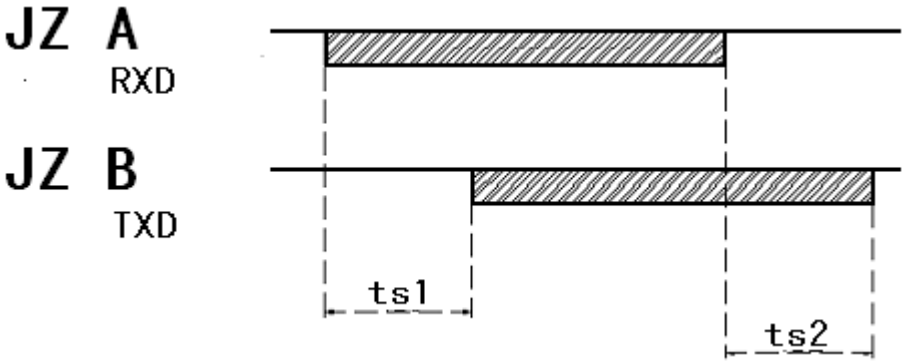
End user devices receiving the data sent by the module, and then transferred to the data center must have sent more than 1ms delay.



From Module A(transmit) to Module B(receive)

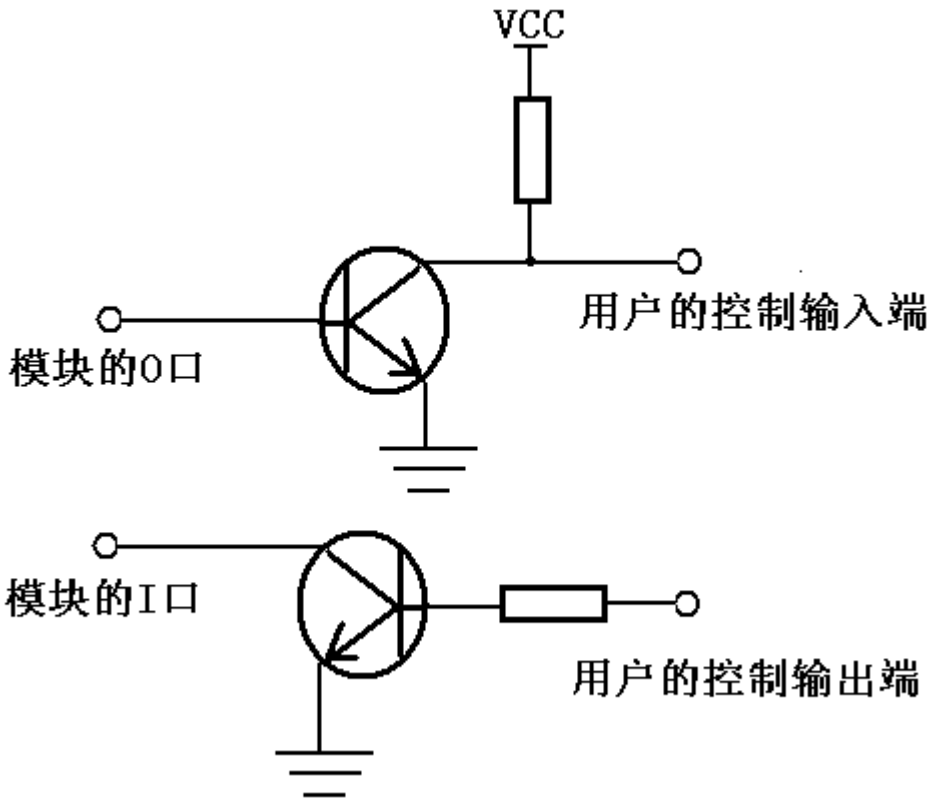
When the user is doing data transfer, the data must take into account the delay module, in order to ensure the reliability of wireless transmission, the company added the module FEC (forward error), and other encoding rules. Then from A to B module module, in the middle of the transmission of data with different baud rates for the delay, in the following table

Air rate (bps)	Time ts1 (ms)	Air Rate (bps)	Time ts1 (ms)
9600	25	1200	140
4800	43		
2400	83		



Application of IO control

JZ891 have 2 on-off input ports，2 on-off output ports as follows:



IO Attemper Function

JZ891 have two communication protocols: Full transparence protocol and ID protocol.

(Remarks: full transparence protocol is default protocol, if you need JZ891 with ID protocol, please tell us when you order)

1) full transparence protocol

In this mode , whatever protocol you use , JZ891 can send it to the other side, It can not change data format and data bits. JZ891 can be used for Reading meter, RTU and PLC with Address and so on..

2) ID protocol

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When your terminal without Address or ID, you can use JZ891 with ID protocol , in this way you can differentiate the data from you terminal. The Main station you must use JZ891 with full transparence protocol, the appurtenant station you must use JZ891 with ID protocol. The JZ891 of the appurtenant station must set ID according Jizhuo RF module soft, you can resolve the data from user terminal transmit according to ID Protocol.

Remarks: when you use JZ891 with ID protocol, we provide 《communication protocol of JZ891》 and programme manual.

3) IO attemper function

You can use one JZ891 with full transparence protocol for the Main station, some JZ891 with ID protocol for the appurtenant stations, each JZ891 of the appurtenant station must set one unrepeatable ID. You can attemper the appurtenant station IO according to communication protocol of JZ891.

Remarks: when you use IO attemper function, we provide 《communication protocol of JZ891》 and programme manual.

Description of the normal work light

Wireless module has a two-color indicator light, power, the red light will flash twice; emission data, red, green light when receiving data

JZ882 default parameter

Channel: First channel;

Serial port speed: 9600BPS

Serial port verification: Null

Airborne speed: 9600BPS

C	F	C	F
1	487.5072MHZ	5	490.6942MHZ
2	488.4289MHZ	6	491.1580MHZ
3	489.2329MHZ	7	491.7360MHZ
4	489.9260MHZ	8	492.4388MHZ

Technical specification	
Modulation：	GFSK
Frequency：	490MHz
Transmit Power：	500mW(27 dB)
Receiversensitivity：	-122dBm
Transmit Current：	<360mA （TTL）
Receive Current：	<45mA
Sleep Current：	<1mA
Channel Rate：	1200/2400/4800/9600Bit/s customized
Serial Port Rate：	1200/2400/4800/9600Bit/s customized
Interface：	UART/TTL RS232 RS485
Interface-data-format：	8E1/8N1/8O1
Working Power：	DC 4.5-5.5V
Working Temperature：	-20℃～75℃
Working humidity：	10%～90%
Size：	63mm*43mm*15mm
Communicated Model：	JZ881/JZ882/JZ883

Optional Antenna:

Trouble and solve ways:

Trouble and solve ways:	
Troubles	Cause and Remedy
Between devices not communicated	Communication at both ends of the air rate, parity inconsistency
	Frequency inconsistency
	Without power
	Module has destoryed
	The pin of sleep mode not set
Short Distance	Environment very bad or the antenna is blocked
	The existence of the same frequency or magnetic or electrical interference, or replacement of the channel away from sources of interference
	Power match or not. Voltage and current is large enough
Module cant communicate with PC	Without power
	TTL to RS232 converter is damaged, or without power supply
	Converters .module.pc with connection error
	Change work channels
	Serial port baud rate settings are not correct or air, to re-set
	Power supply ripple big, replace the power supply

Note: All of the rights of final interpretation and modification by our company